REMARKS

Claims 1-4 are now pending in the application. Claims 1 and 3 have been amended. Basis for the amendments and new claims can be found throughout the specification, claims and drawings originally filed. The Examiner is respectfully requested to reconsider and withdraw the rejection in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Admitted prior art figs. 6 and 7. This rejection is respectfully traversed.

Referring to Claim 1, Admitted prior art fig. 6 does not show, teach, or suggest correlation calculation means for calculating a correlation signal as a function of the sum of first power information and second average signals.

Admitted prior art fig. 6 teaches a power correlator that is incorporated into a code detector of a communications terminal. The power correlator correlates a received signal with candidate scrambling codes. The power correlator includes a despreading circuit that despreads the received signal using candidate codes. A power circuit generates power information based on the despread signals. The power correlator combines and averages the inphase and quadrature power information over a time period to generate a correlation output.

The power correlator does not calculate the correlation output as a function of the sum of the average power information and average signals from a different correlator, as required by the claims. The code detector of the power correlator taught by Admitted

prior art fig. 6 detects the scrambling codes based only on the correlation output of the power correlator. For example, the power correlator taught by Admitted prior art fig. 6 does not generate a combination correlation signal based on the output of the power correlator and based on the output of a different kind of correlator, as taught by Applicants. Additionally, as taught by Applicants on page 4 of the Application, the despread signals may include noise components. The precision of the correlation output deteriorates when the noise components are relatively high.

Admitted prior art fig. 7 does not remedy the shortcomings of Admitted prior art fig. 6. Admitted prior art fig. 7 teaches an inphase correlator that is incorporated into a code detector of a communications terminal. The inphase correlator despreads received signals using candidate codes and converts the despread signals into synchronized despread signals, which are inphase with each other. The synchronized despread signals are averaged in order to generate average signals. The code detector converts the average signals into power information, and the combined inphase and quadrature power information forms the correlation output of the code detector.

The inphase correlator does not determine the correlation output as a function of the sum of the combined power information and average signals from a different correlator, as required by the claims. The code detector of the inphase correlator taught by Admitted prior art fig. 7 detects the scrambling codes based only on the correlation output of the inphase correlator. As taught by Applicants on page 4 of the Application, the phase of the despread signals may shift from one symbol to another due to frequency variation of an oscillator. As a result, the correlation output of the inphase correlator may be much less than the actual correlation between a code candidate and

the received signal. In other words, the precision of the inphase correlator deteriorates when the frequency of the oscillator varies.

Applicants teach a code detector that generates a combined correlation output by combining an auxiliary signal and the output of one of a power correlator or an inphase correlator. The auxiliary signal is generated by scaling the output of the other of a power correlator or an inphase correlator. Therefore, the code detector determines the scrambling codes based on the outputs of both a power correlator and an inphase correlator. As Applicants teach in FIG. 3, the combined correlation output has a higher probability of success than either solely the power correlator or solely the inphase correlator for a significant range of frequency differences between a communications terminal and a base station.

There is no teaching or suggestion with respect to Admitted prior art figs. 6 or 7 to combine a power correlator and an inphase correlator in order to generate a correlation output for scrambling code detection. Additionally, there is no teaching or suggestion with respect to Admitted prior art figs. 6 or 7 to generate an auxiliary signal based the output of one of a power correlator or an inphase correlator in order to detect scrambling codes. Admitted prior art figs. 6 and 7 simply present alternative methods for detecting scrambling codes in received signals as opposed to the method taught by Applicants.

Claim 2 depends directly from Claim 1 and is allowable over Admitted prior art figs. 6 and 7 for the same reasons.

Referring to Claim 3, Admitted prior art figs. 6 and 7 do not show, teach, or suggest calculating a composite correlation signal as a function of the sum of a first power signal and a third average signal.

The arguments above with respect to Claim 1 are equally applicable to Claim 3. The power correlator taught by Admitted prior art fig. 6 does not calculate the correlation output as a function of the sum of the average power information and average signals from a different correlator. The code detector of the power correlator taught by Admitted prior art fig. 6 detects the scrambling codes based only on the correlation output of the power correlator. The despread signals may include noise components. The precision of the correlation output deteriorates when the noise components are relatively high.

Admitted prior art fig. 7 does not remedy the shortcomings of Admitted prior art fig. 6. The inphase correlator taught by Admitted prior art fig. 7 does not determine the correlation output as a function of the sum of the combined power information and average signals from a different correlator. The code detector of the inphase correlator taught by Admitted prior art fig. 7 detects the scrambling codes based only on the correlation output of the inphase correlator. The phase of the despread signals may shift from one symbol to another due to frequency variation of an oscillator. In other words, the precision of the inphase correlator deteriorates when the frequency of the oscillator varies.

There is no teaching or suggestion with respect to Admitted prior art figs. 6 or 7 to combine a power correlator and an inphase correlator in order to generate a correlation output for scrambling code detection. Additionally, there is no teaching or

suggestion with respect to Admitted prior art figs. 6 or 7 to generate an auxiliary signal based the output of one of a power correlator or an inphase correlator in order to detect scrambling codes. Admitted prior art figs. 6 and 7 simply present alternative methods for detecting scrambling codes in received signals as opposed to the method taught by Applicants.

Claim 4 depends directly from Claim 3 and is allowable over Admitted prior art figs. 6 and 7 for the same reasons.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: May 2, 2005

By: ______________________
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